

Scientific Analysis
Administrative Change Notice

Complete only applicable items.

1. Document Number:	ANL-WIS-MD-000020	2. Revision:	01	3. ACN:	01
4. Title:	Initial Radionuclide Inventories				
5. No. of Pages Attached:	1				

6. Approvals:					
Preparer:	<div>Christine Stockman <i>Christine Stockman</i> 9/21/05 Print Name and Sign Date</div>				
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7. Affected Pages	8. Description of Change:				
4-2	<p>Editorial Error in Table 4-1, 14th row:</p> <p>Under heading, Values/Table, change Table 4-13 to Table 4-12:</p> <table border="1"><tr><td>Radionuclide half-lives, constants and conversion factors</td><td>Tables 4-3 and 4-12¹³</td><td>Years, grams, mass per activity (m/a_i)</td><td>Parrington et al. 1996 [DIRS 103896]</td></tr></table> <p>This change is related to CR 6151</p>	Radionuclide half-lives, constants and conversion factors	Tables 4-3 and 4- 12 ¹³	Years, grams, mass per activity (m/a _i)	Parrington et al. 1996 [DIRS 103896]
Radionuclide half-lives, constants and conversion factors	Tables 4-3 and 4- 12 ¹³	Years, grams, mass per activity (m/a _i)	Parrington et al. 1996 [DIRS 103896]		

Table 4-1. Direct Inputs Used in This Report

Data/Technical Information		Values/Table	Units	Source
Waste Package Configuration	Number of packages for each configuration	Table 4-2	Packages	BSC 2004 [DIRS 169472], Table 11
	Number of canisters or assemblies per package	Table 4-2	Canisters / Assemblies	BSC 2004 [DIRS 169472], Table 11
	Average CSNF radionuclide inventory in 2033 for each of the 5 WP configurations (Bins 1-5) for Case A-63,000 MTU scenario based on 1999 CSNF waste streams.	Table 4-4	Curies per radionuclide per assembly (Bins 1-5)	CRWMS M&O 2000 [DIRS 138239], from Disk I, Attachment III, File D:\BIN.EXE_Files\output_files\Case_A_63K\average_nuclides.dat. Also, see (CD for this analysis): workbook CSNFcasea63.xls
	Average Initial Burnup values for 63,000 MTU (63K) Cases A-C (Arrival scenarios) for the 5 WP configurations; number of waste packages for each waste package design	Table 4-5	Burnup in GWd/MTU	CRWMS M&O 2000 [DIRS 138239] Tables 10, 12, 14; p. 18
	Total Number of PWR&BWR Assemblies and burnup values for 63K, Cases A' to D' (Arrival scenarios)	Table 4-6	Burnup in units of GWd/MTM	BSC 2003 [DIRS 165990], Table 2
	BWR & PWR burnup values for the 63K MTHM Cases (Arrival scenarios A' to D')	Table 4-6	GWd/MTU	BSC 2003 [DIRS 165990], Table 4
	Modeled Calculation of Uncertainty for CSNF	Table 4-7 Section 6.6.1	None	DeHart and Hermann 1996 [DIRS 156084], Table 19 Hermann and DeHart 1998 [DIRS 106563], Table 24
	Isotopes Required by EPA & NRC	^{228}Ra , ^{226}Ra	none	40 CFR 197.30 [DIRS 165519] and 10 CFR 63.331 [DIRS 156605] for groundwater protection
	DSNF inventory	Table 4-8	Curies/canister	First eight worksheets of "Total 2030 D568-585.xls" (DOE 2003 [DIRS 163377])
	DSNF canister count	2,500 to 5,000	Canisters	DOE 2004 [DIRS 169354], p. 41
	SRS Glass Information	Table 4-9	Curies/canister	Allison 2004 [DIRS 168734]
	Hanford estimated radiochemical inventory in HLW, Basis 1/1/2030	Table 4-10	Curies	Hamel 2003 [DIRS 164947], Table 2
	HLW canister production estimates for Alt. Waste loading and canister fill levels	Table 4-11	Canisters	Hamel 2003 [DIRS 164947], p.1-9, Table 1-3
	Radionuclide half-lives, constants and conversion factors	Tables 4-3 and 4-12	Years, grams, mass per activity (m_i/a_i)	Parrington et al. 1996 [DIRS 103896]
	Half-life of ^{79}Se	Table 4-3	Years	Singh 2002 [DIRS 164741]
	Half-life of ^{232}Th	Table 4-3		Lide 1991 [DIRS 131202], p. 11 to 122
	List of Radionuclides	Tables 4-14 and 4-15	None	BSC 2002 [DIRS 160059], Tables 12 and 13; Parrington et al. 1996 [DIRS 103896]
	Radionuclides in crud	Appendix I.3 & I.4	Curies	BSC 2004 [DIRS 171407], Table 2 BSC 2004 [DIRS 171435], Table 8
	Radionuclide inventory in hardware	Table 16	Curies	BSC 2004 [DIRS 171435] BSC 2004 [DIRS 171436]